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CONTENTS

	PAGE
BROADHEAD, EDWARD, M.A., B.Sc., F.R.E.S. The characters of the genus *Liposcelis* (Corrodentia, Liposcelidae) and a further description of *Liposcelis formicaria* (Hagen) with notes on its affinities	35–38, 1 fig.
CAMERON, MALCOLM, M.B., R.N., F.R.E.S. A new genus of blind cavicolous STAPHYLINIDAE (Col.) from India	30
COLLIN, J. E., F.R.E.S. On the identification of the type of *Anthomyia minuta* Meigen (1826) with consequential changes in the names of three British ANTHOMYIDAE (Diptera)	33–34
FLETCHER, T. BAINBRIGGE, R.N., F.L.S., F.R.E.S., F.Z.S. Some species of *Cosmoclostis* (Lep. : ALUCITIDAE)	42–52
JOBLING, B., F.R.E.S. On *Speiseria ambigua* Kessel and *Synthesiostrebla amorphochili* Townsend, with a redescription of the latter (Diptera, STREBLIDAE)	39–41, 1 fig.
MACFIE, J. W. S., M.A., D.Sc., F.R.E.S. A new species of *Lasiohelea* (Diptera, CERATOPOGONIDAE) from Uganda	29–30, 2 figs.
MAMET, RAYMOND. Another new species of *Newsteadia* Green (Homoptera, Coccoidea) from Mauritius	31–32, 1 fig.
ROCHE, P. J. L., M.R.C.S., L.R.C.P., F.R.E.S. A new genus and species of PENTATOMIDAE (Hemiptera, Heteroptera) from Nigeria	27–28, 2 figs.

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A NEW GENUS AND SPECIES OF PENTATOMIDAE (HEMIPTERA, HETEROPTERA) FROM NIGERIA

By P. J. L. Roche, M.R.C.S., L.R.C.P., F.R.E.S.

Ibocoris gen. n.

Subfamily Acanthosominae.

This new genus falls into the group of genera having 4-segmented antennae, the nearest probably being *Catadipson* Breddin and *Microdeuterus* Dallas. It shows a very marked degree of sexual dimorphism which at once separates this from all related genera. The head of the male differs from that of the female in having the lateral lobes of the face prolonged forwards into a strong spine on either side of the central lobe,the spines projecting beyond the head for a distance nearly equal to one-third of the length of the rest of the head. In the female the lateral lobes of the face are rounded, and do not extend beyond the head (fig. 1). In the female the connexivum is plainly visible from above, but is very narrow in the male so as to be completely hidden beneath the hemielytra when viewed from above. The female bears a long, slender, finger-like process which arises from the very small first segment of the connexivum ; this process extends forwards, and is approximately equal in length to the second connexival segment (fig. 2).

Genotype : *Ibocoris ficivora* sp. n.

Ibocoris ficivora sp. n.

Male. Head and pronotum testaceous, heavily and coarsely punctured with black, giving the impression of a dark brown insect. Head, without the eyes and projecting lateral

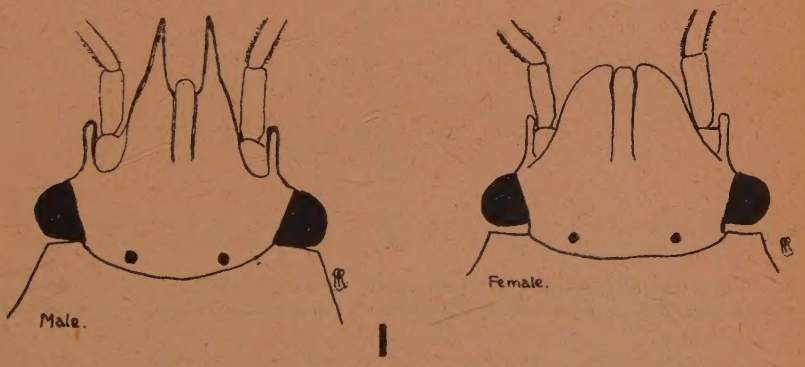

Fig. 1.—Head of *Ibocoris ficivora*, ♂ and ♀.

lobes of the face, as long as broad ; its structure is as stated in the description of the genus ; eyes prominent, both the eyes and the ocelli touching the anterior margin of the pronotum. Antennae 4-segmented ; the first segment testaceous, glabrous, reaching to half the length of the projecting portion of the lateral lobes of the face ; second segment finely pubescent, the apical one-third dark, five times as long as the first ; third and fourth segments of equal length, together equal in length to the second, finely pubescent and entirely dark. Rostrum extending to just beyond the posterior coxae, testaceous with the extreme apex dark ; the under surface of the head and pronotum is grooved for the reception of the first and second

segments of the rostrum. Pronotum broader than long ; anterior border roundly amarginate, posterior border strongly sinuate and plainly margined throughout ; anterior angles sharp, posterior angles obtuse, lateral angles produced into a long spine which is directed forwards and sideways. Scutellum rather longer than the pronotum, the basal half concolorous with the pronotum, the apical half white. Hemielytra hyaline with the cuneus and the posterior half of the lateral border of the corium opaque, dark brownish-red ; the hemielytra have scattered large black punctures which tend to be finer and closer on the cuneus ; membrane hyaline, smoky towards base. Abdomen dark dorsally, with connexivum testaceous. Ventral surface and legs entirely testaceous. Length 7·5 mm.

Female. In the structure the female differs from the male as stated in the description of the genus. In addition, the third and fourth antennal segments are slightly shorter, their combined length being five-sixths of the length of the second segment. Head pale lemon-yellow, eyes and ocelli black. Antennae testaceous, a longitudinal stripe on the lateral aspect of the first, the apical one-fifth of the second, the apical half of the third, and the apical two-thirds of the fourth segment dark. Pronotum pale yellow with the lateral spines and base diffused with orange, the margins from the tip of the lateral spines posteriorly to the base of the scutellum narrowly black. Hemielytra orange-yellow with a sharply defined narrow black border, and a small black patch at the apex of the corium divided into two by an oblique pale streak ; membrane hyaline. Scutellum unicolorous pale lemon-yellow. Abdomen dorsally pale testaceous with a large apical blotch dark brown. Ventral surface and legs entirely testaceous. Length 8·5 mm.

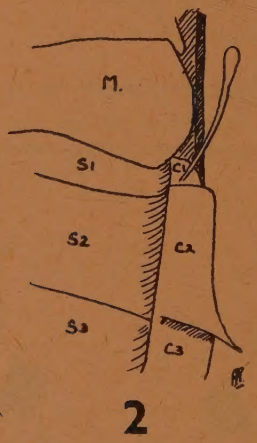

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Fig. 2.—Under-surface of *Ibocoris ficivora*, ♀. *C*1, 2, 3 : 1st, 2nd and 3rd segments of the connexivum. *S*1, 2, 3 : 1st, 2nd and 3rd abdominal sternites. *M* : metasternum.

Southern Nigeria : Enugu, 21.ix.1944, 3♂, 6♀ (three pairs were taken *in copula*). The species was found on *Ficus* sp.

The writer is indebted to Mr. W. E. China for much help in establishing this new genus and species.

References.

Breddin, G., 1903, *Soc. Ent.* **18** : 90.
Stål, C., 1876, *K. Svenska Vetensk-Akad. Handl.* **14** (4) : 108.
Kirkaldy, G. W., 1909, *Catalogue Hemiptera* (*Heteroptera*) **1** : 166.

A NEW SPECIES OF *LASIOHELEA* (DIPTERA, CERATOPOGONIDAE) FROM UGANDA

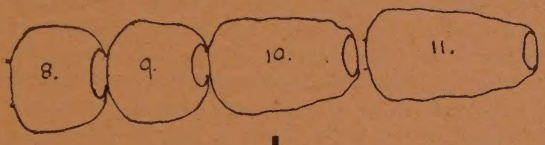
By J. W. S. Macfie, M.A., D.Sc., F.R.E.S.

Lasiohelea insignicornis sp. n.

A small, very dark brown species bearing scales in addition to bristles and hairs, and with the last six segments of the antenna of the female elongate.

Female. Length of wing, about 0·8 mm.; greatest breadth, about 0·3 mm.

Head almost black. Eyes apparently bare. Proboscis very short. Palpi darkish brown: 2nd, 4th and 5th segments about the same length, 5–6 units[1]; 3rd a little longer, 9 units, only very slightly inflated, with a shallow pit. Antennae (fig. 1) with torus very dark and flagellum segments darkish brown: segments 4–9 ranging from 5 by 7 to 6 by 6 units, armed with rather slender, colourless spines about same length as segments; segments 10–15 elongate, 10–14 about 9, 11, 13, 13, and 14 by 5–6 units, 15 longer, about 20 units (including stylet), ending in a nipple-like process. The combined lengths of segments 3–9 and 10–15 about 39 and 81 units respectively. *Thorax* very dark brown, hairs scanty. Scutellum not quite so dark as scutum, bearing six bristles and a few small hairs. *Wings* unadorned, with usual small clear area just beyond end of costa. Microtrichia minute.



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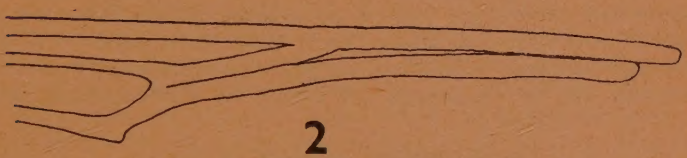

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Fig. 1.—*Lasiohelea insignicornis* sp. n., segments 8–11 of antenna of female.
Fig. 2.—*Lasiohelea insignicornis* sp. n., radial cells of wing of female.

Macrotrichia not very dense, bare areas along veins not especially distinct. Some narrow scales on costa and radial veins. Costa extending about three-fifths length of wing. Radial cells (fig. 2) almost obliterated, second very long and narrow. Fork of Cu proximal to level of end of costa. Halteres with infuscated knobs. *Legs* almost uniformly brown, paler than thorax, bearing long, narrow, fringed scales in addition to bristles and hairs. T.R. about 2·7 to 2·8. Fourth tarsal segment about as long as fifth. Claws small, not quite half length of last tarsal segment, equal, bifid at tips, and with a rather conspicuous expansion at base. *Abdomen* very dark brown, bearing scales similar to those on legs. Spermathecae two, well chitinised, partially collapsed in the unique specimen but apparently dissimilar and resembling those of *L. caliginosa* I. and M., their lengths (including chitinised commencement of duct) and greatest breadths probably about 59μ by 44μ and 55μ by 37μ respectively.

Uganda: Entebbe, 30.iv.1946, 1 ♀ (*J. J. Steyn*).

[1] The unit is approximately 3·7μ.

So far as I can ascertain this species differs from all others of the genus *Lasiohelea* hitherto described in having the last six segments of the antenna of the female elongate, as in the genus *Pterobosca*.

The type is in the British Museum (Natural History).

A NEW GENUS OF BLIND CAVICOLOUS STAPHYLINIDAE (COL.) FROM INDIA

By Malcolm Cameron, M.B., R.N., F.R.E.S.

Typhlomalota gen. n.

Near *Homalota* Mannerheim. In facies somewhat like *Paraleptusa* Peyerimhoff. Head orbicular; neck stout; eyes absent; temples finely bordered; gular sutures distant; parallel. Antennae short and stout. Labrum transverse, truncate in front, the sides gently rounded. Mandibles somewhat prominent, pointed, edentate. Inner lobe of maxilla pointed, the inner margin with several close setae, outer lobe finely ciliate at apex. Maxillary palpi with the 1st segment very small, 2nd narrow at base, enlarged towards apex, 3rd a good deal longer and stouter than 2nd, oval, 4th subulate, about a third as long as the 3rd. Mentum transverse, trapezoidal, the anterior border truncate. Labial palpi of two segments, the 1st modefately long, on the inner border before the apex with a small notch, 2nd narrower and a little shorter, the apex rounded. Tongue broad, nearly as long as the 1st segment of the labial palpus, a little narrowed towards apex and split to the middle into two lobes. Pronotal epipleura visible from the side. Prosternum carinate, the posterior deflexed part rounded behind. Mesosternum simple, its process narrow, elongate and pointed extending nearly the whole length of the coxae (these narrowly separated) and meeting the metasternum. Abdomen parallel, the anterior tergites not transversely impressed at base, the 7th shorter than the 6th and without membranous border. Elytra not emarginate postero-externally, shorter than the thorax. Tibiae finely ciliate. Tarsi 4, 4, 5; the anterior with the first three segments short, 4th as long as the preceding together, the middle very similar: posterior with the 1st segment rather short, 2nd to 4th gradually decreasing in length.

Typhlomalota glenniei sp. n.

Narrow, parallel, moderately shining yellow. Antennae and legs yellow. Length 1·5–2 mm.

Head round, narrower than the thorax, the mandibles somewhat prominent, very finely, rather closely obsoletely punctured and without distinct ground sculpture. Antennae short, the 1st and 2nd segments of equal length, the 3rd half as long as the preceding, 4th to 10th transverse, increasing in width, the penultimate fully three times broader than long, the 11th as long as 9th and 10th together. Thorax slightly transverse (2·5 : 2·3), the sides gently rounded, a little more retracted behind, the angles rounded, the sculpture as on the head. Elytra as broad as but shorter than the thorax (2 : 2·3), much more distinctly punctured, the punctures close, fine and asperate. Abdomen parallel, longer than the fore-parts, very finely, moderately closely punctured throughout and with fine reticulate ground sculpture. Pubescence fine yellow and depressed, longer on the abdomen.

North India: Chakrata district, Bodyar, xi.1941. I am indebted to Brigadier E. A. Glennie of the Geodetic Survey for this interesting addition to the Indian fauna.

ANOTHER NEW SPECIES OF *NEWSTEADIA* GREEN (HOMOPTERA, COCCOIDEA) FROM MAURITIUS

By Raymond Mamet.

(*Rose Hill, Mauritius.*)

Newsteadia montana sp. n.

Adult female covered dorsally with pure white waxy secretion. Lamellae fairly compact and pure white : they are short and slightly curved upwards in the anterior and lateral marginal areas and much longer around the posterior margin ; between the marginal series they are in low transverse ridges. Ovisac short. Venter covered with fine, whitish, waxy secretion except around the insertion of the appendages. Derm membranous throughout except for the appendages. Antennae normally 6-jointed. In the single specimen examined (type) the antennae have 6 and 3 joints respectively. Basal joint in both antennae stouter than the others. In the 6-jointed antenna (fig. 1, *a*) the second joint is more slender than the first (basal) and a little shorter ; the third joint a little shorter and more slender than the second ; the fourth and fifth joints subequal in length ; terminal joint longest, with a stout seta at its apex. The other antenna (fig. 1, *b*) is abnormal and consists of only 3 joints, of which the third is longer than the first and second together ; the apical seta is stout but shorter than the one found in the 6-jointed antenna. Both antennae are furnished with longish, slender setae. Eye (fig. 1, *c*) conical, with blunt apex. Legs (fig. 1, *d*) long and stout, without any tibio-tarsal articulation or any demarcation of trochanter ; with numerous long and slender setae. Claw (fig. 1, *e*) slender, slightly curved, without denticle. Tarsal digitules represented by stout spiniform setae which are about one-fourth length of claw ; ungual digitules setiform and slender, about one-third length of claw, without knobbed extremities. Trochanter with four oval, translucent pores on each face. Labium (fig. 1,*f*) obscurely dimerous, bearing numerous longish setae near its apical end. Thoracic spiracles (fig. 1, *g*) not unusual in size, each bearing a few quadrilocular pores. Abdominal spiracles (fig. 1, *h*) very much smaller than the thoracic ; in five pairs present on the anterior abdominal segments. Only quadrilocular pores of the usual type present on the derm ; they are scattered over the whole body but are apparently more numerous in the ventral abdominal region. Venter with a transverse band of slender setae anterior to the genital opening and a few stouter setae scattered over the ventral dermis. Dorsum with less numerous similar setae. Body spines (fig. 1, i_1–i_4) in clusters both dorsally and ventrally, corresponding with the areas occupied by the waxy secretions (lamellae) ; the spines bulbous at base and tapering to a blunt point. Venter with a well-marked ovisac band running across the base of the abdomen and continued along each side up to less than half-way to the posterior extremity ; enclosed ventral surface of abdomen without spines. Anal ring (fig. 1, *j*) small, beaded, with six fairly long and stout setae tapering to a blunt point.

Length (on slide) 1·5 mm. ; breadth (on slide) 1·2 mm.

Material examined : One adult female (type, in my collection).

Host and locality : On saprophytic musci growing on rotting wood in the midst of an indigenous forest. Mauritius : Le Pouce Mountain, at an altitude of about 2,000 feet, 20.xii.1942.

Remarks.

This species differs from *Newsteadia mauritiana* Mamet in the presence of quadrilocular pores near the thoracic spiracles ; in the legs and antennae bearing much longer and slender setae ; in the less spinose labium and in the absence of ventral abdominal thickenings.

Newsteadia mauritiana Mamet.

1943, *Bull. ent. Res.* **34** : 117–120, figs. 1–2.

This species, which was described from three adult individuals only,

has recently been collected in further localities in Mauritius—viz., Le Pouce Mt. (2,661 feet), Cocotte Mt. (2,450 feet), Corps de Garde Mt. (2,358 feet), Berthelot Peak (2,226 feet), and Curepipe (1,800 feet).

On further studying the type and the paratypes, it has been found that *five* pairs of abdominal spiracles, instead of the three pairs mentioned in the description, were present.

In all the localities mentioned above, this species was found on wood or vegetation undergoing decay and in damp or semi-damp conditions.

FIG. 1.—*Newsteadia montana* sp. n. Adult female: *a*, 6-jointed antenna; *b*, 3-jointed antenna (abnormal); *c*, eye; *d*, hind leg; *e*, enlarged portion of hind leg showing claw; *f*, labium; *g*, thoracic spiracle; *h*, abdominal spiracle; i_1, spines from ovisac band (first row); i_2, spines from ovisac band (second row); i_3, spines from region between the hind pair of legs; i_4, spines from dorsal abdominal region; *j*, anal ring.

ON THE IDENTIFICATION OF THE TYPE OF *ANTHOMYIA MINUTA* MEIGEN (1826) WITH CONSEQUENTIAL CHANGES IN THE NAMES OF THREE BRITISH ANTHOMYIDAE (DIPTERA)

By J. E. Collin, F.R.E.S.

Work commenced prior to the war on the identification of a very small black-legged *Pegomyia* bred by the staff of the Farnham House Laboratory of the Imperial Institute of Entomology from the flower heads of *Hypericum perforatum* has led to discoveries affecting the names of three British Anthomyids belonging to three different genera in the following manner.

The bred *Pegomyia* was evidently conspecific with two males collected by myself, one at Wendover (Buckinghamshire) on 12th July, 1930, and the other at Farley Downs near Ashley (Hants) on 11th June, 1938. It proved to be the *Chortophila nigrifrons* Karl (1928), an identification confirmed by comparison with a co-type kindly provided by the author of that species, who had placed it in *Chortophila* sens. lat., because of its black legs and chaetotaxy of hind tibiae, though because of the combination of structure of male genitalia, presence of hairs on lower side of wing costa, and absence of a pair of tiny bristles on the frontal stripe in male, it proved to be more correctly placed in the genus *Pegomyia*.

A dissection of the male genitalia exhibited such marked resemblance to the figures given in Schnabl and Dziedzicki's *Die Anthomyiden* (1911) of the genitalia of a species for which they used the name of *Pegomyia minuta* Meigen that (in spite of the absence of any description accompanying the figures) it appeared fairly certain that the same species was involved. Meigen's species was described, as *Anthomyia minuta*, from specimens sent to him by v. Winthem, and in Kertesz' *Katalog* (1907) was placed as a doubtful synonym of *Chortophila* (now *Egle*) *parva* Dsv. In the absence of an explanation by Schnabl and Dziedzicki as to their reasons for placing Meigen's *Anthomyia minuta* in the genus *Pegomyia*, it seemed advisable, before accepting their identification, to endeavour to examine Meigen's type in the v. Winthem Collection at Vienna. Fortunately this was done shortly before international postal exchanges ceased in 1939, and through the kind co-operation of Dr. Max Beier, then in charge of the Vienna Museum Collections, I was able to study two male types of *Anthomyia minuta* Meigen, to find that they were not a species of *Pegomyia*, but specimens of the *Aricia atomaria* of Zetterstedt, a species identified by Ringdahl in 1933 as *Egle atomaria* Zetterstedt, and distinct from *Egle parva* Dsv., though almost equally common in this country about sallow bushes in the early spring.

Unfortunately, Schnabl and Dziedzicki in 1911, in addition to misidentifying *Anthomyia minuta* Meigen, also misidentified *Aricia atomaria* Zetterstedt, using Zetterstedt's name for a species of *Heterostylus*. This species of *Heterostylus*, which (as in the case of the other two species in the genus, *Heterostylus pratensis* Meigen and *piliferus* Zetterstedt) is

mainly distinguishable by differences in the male genitalia as figured by Schnabl and Dziedzicki, was recorded as British in 1935 by Rev. A. Thornley from specimens taken in Cornwall, under the name *Heterostylus atomarius* Schnabl, the "*nec* Ztt." after the name (which was my identification) being accidentally omitted. This species also occurs in, at least, Norfolk, Suffolk and Surrey. The name *Heterostylus atomarius* Zetterstedt of Schnabl and Dziedzicki was a new combination of generic and trivial names for a species believed to be the *Aricia atomaria* of Zetterstedt, and the trivial name *atomaria* of this new combination was not a new name "under which a species was first designated," and therefore not a valid trivial name for the species (subsequently discovered to require a new name) to which it was mistakenly applied. It is here proposed that this new name should be **Heterostylus nominabilis** nom. nov.

Finally, in regard to the name of the *Pegomyia* bred from *Hypericum perforatum*, the name *Pegomyia minuta* Meigen of Schnabl and Dziedzicki cannot be used for the same reason as that given in the case of the name *Heterostylus atomarius*, and Karl's trivial name of *nigrifrons* cannot be used because there is a prior name of *Pegomyia nigrifrons* Macquart (1835) for a species which cannot be the same as Karl's, because of its larger size (2 lines), and testaceous abdomen and legs. *Pegomyia minuta* Schnabl and Dziedzicki *nec* Meigen may well be known in future as **Pegomyia hyperici** nom. nov.

The synonymy may be summarised as follows :—

Egle minuta (Meigen), (1826).

Anthomyia minuta Meigen, (1826).
Aricia atomaria Zetterstedt, (1845).
Egle atomaria (Zetterstedt) of Ringdahl (1933).

Heterostylus nominabilis nom. nov.

Heterostylus atomarius (Zetterstedt) of Schnabl and Dziedzicki (1911), *nec Aricia atomaria* Zetterstedt (1845).

Pegomyia hyperici nom. nov.

Pegomyia minuta (Meigen) of Schnabl and Dziedzicki (1911) *nec Anthomyia minuta* Meigen (1826).
Chortophila (*Nupedia*) *nigrifrons* Karl (1928)=*Pegomyia id.*, *nec Pegomyia nigrifrons* Macquart (1835).

THE CHARACTERS OF THE GENUS *LIPOSCELIS* (CORRODENTIA, LIPOSCELIDAE) AND A FURTHER DESCRIPTION OF *LIPOSCELIS FORMICARIA* (HAGEN) WITH NOTES ON ITS AFFINITIES

By Edward Broadhead, M.A., B.Sc., F.R.E.S.

Badonnel in his monograph of the Corrodentia (1943) briefly defines the genus *Liposcelis*, but remarks that an adequate characterization of this genus is difficult since sufficient characters of most of the species have not been described nor have sufficient numbers of individuals of each species been examined. More recently Broadhead (1947) has carried out a detailed morphological and statistical study of a large number of characters of five *Liposcelis* species—*L. divergens* (=*granicola*), *subfuscus*, *pubescens*, *luridus* and *liparus*. From this and from a similar study of large numbers of *L. bakeri* Pearman, and from an examination of a cotype of *L. formicaria* (Hagen) and of specimens of *L. paetus* Pearman, a more extensive definition of the genus is possible.

The genus *Liposcelis* is characterized as follows :[1]

Cuticle of dorsal surface of body sculptured with arched ridges or minute tubercles or both ; epicranial sutures either absent or represented only by a break in the sculpturing (visible at high magnifications in stained mounts) ; no ocelli ; 2–8 ommatidia ; terminal segment of maxillary palpus with two external subapical pointed sensilla chaetica slightly curved and as long as adjacent hairs, and more apically with a group of six broad and blunter sense cones (sensilla basiconica) about ¼ length of sensilla chaetica or less, the number constant but the arrangement varying both within a single species and in the different species ;[2] the furrows marking off the two anterior areas of the mesonotum reaching the anterior margin of this segment laterally ; no sclerotised plate between prothoracic and meso-metathoracic sternites ; hind femur with a dorsal obtuse protuberance at its greatest breadth ; no stout spur at distal end of hind tibia (at most with two very short bristles little thicker than adjacent hairs) ; hairs on hind tibia of uniform length ; abdomen shouldered at its antero-lateral angle ; in female 8th and 9th tergites fused medially over a distance equal to 1/3 width of abdomen, 9th and 10th tergites completely fused ; in male 9th and 10th tergites fused medially ; an internal T-shaped skeletal structure towards apex of subgenital plate of female ; female genitalia almost identical in all species examined, at point of attachment either a single or a bifurcated horn ; completely apterous in both sexes.

Through the kindness of Dr. J. C. Bequaert of the Museum of Comparative Zoölogy, Harvard College, I have recently been able to examine one of the six cotypes of *Atropos formicaria* Hagen. This specimen has been dissected and mounted by me. It was originally pasted on a card, dry, with the other cotypes. In view of the close relationship existing between the various species of *Liposcelis* and the lack of adequate

[1] Figures illustrating these characters are given by Broadhead and Hobby (1944) and Broadhead (1947).

[2] In *paetus* one sensilla chaetica is usually much shorter than the other and often is the same length as the sensilla basiconica.

measurements of *A. formicaria*, a further description of this species is desirable. The specimen examined was unfortunately not complete. The maxillary palpi, the flagellum of the antennae and all the legs, except the coxae and the femur, tibia and first tarsal segment of one hind leg, were missing. Many of the hairs and bristles on the body were lacking. In spite of this, however, sufficient characters were visible to allow comparison with other species. *Atropos formicaria* was originally described by Hagen (1865) as "shining black; the antennae and legs brown beneath. Long. 1 mill. Habitat: Prussia; near Königsberg in the nests of *Formica fuliginosa*. It resembles *A. divinatoria* in form." This description was enlarged and a figure given by Hagen in 1883. It is now placed in the genus *Liposcelis*.

Liposcelis formicaria (Hagen) (further description).

Female (cotype).[3] *Colour:* very dark brown.

Sculpturing (stained with acid fuchsin and mounted in balsam): head dorsally with distinct arched ridges enclosing smooth spindle-shaped areas, some tubercles antero-laterally especially in region anteriorly to eye and around antennal sclerites; abdominal tergites as head but with spindle-shaped areas more elongate, few tubercles laterally on tergites 1–8, tubercles present laterally and posteriorly on 9th and 10th tergite. No trace of epicranial suture. *Head:* with fine hairs uniformly scattered, length of the few hairs still present (dorsally near eye) equal to or slightly greater than width of adjacent spindle-shaped areas on cuticle, distance between hairs in middle region of vertex about 0.025 mm.

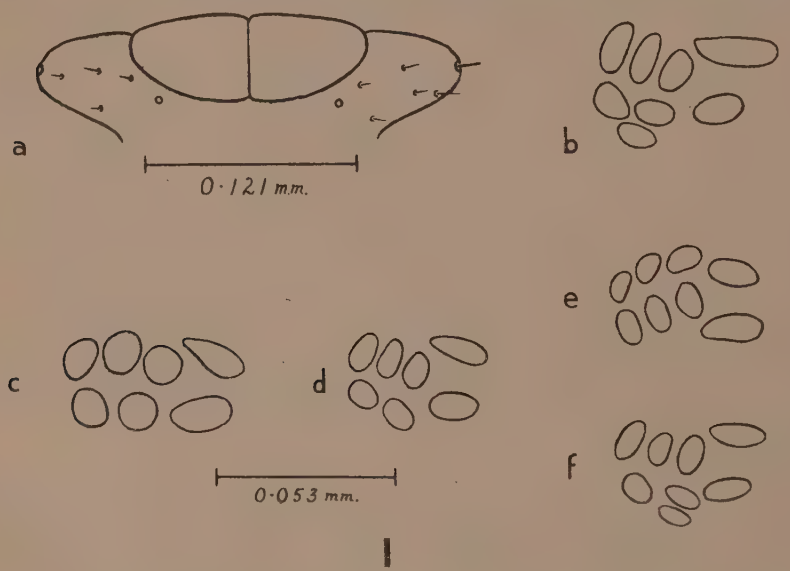

Fig. 1.—Females. *a*, prothorax of *L. formicaria*, dorsal view to show chaetotaxy of lateral lobes (three bristles missing, their alveoli indicated). *b*, *c*, left eyes of *L. formicaria* and *L. pubescens* respectively showing arrangement of ommatidia. *d*, left eye of *L. subfuscus* normal arrangement. *e*, *f*, right and left eye respectively of one individual of *L. subfuscus* showing aberrant arrangement.

[3] The specimen on which this description is based is my Lectotype of this species.

Both eyes with 8 ommatidia (fig. 1*b*). *Thorax :* with fine hairs uniformly scattered ; with one stronger bristle, truncated distally, on lateral tip of prothorax on each side (humeral seta), possibly with one other such bristle towards inner margin of lateral lobe of prothorax (bristle missing but alveolus of same size as that of humeral seta) and with 4–5 small fine hairs mainly posteriorly between these two (fig. 1*a*). Prothoracic sternite with 4 bristles anteriorly arranged in a transverse row and with an additional pair immediately behind them. Meso-metathoracic sternite with transverse slightly arched row of 9 bristles towards anterior margin. *Abdomen :* with very short fine hairs uniformly scattered, average length of these hairs (on tergites 3–7) 0·007 mm. ; with long strong bristles, truncated distally, on 9th and 10th tergites laterally, on epiproct, paraprocts and sub-genital plate ; probably two such bristles on each side of almost equal length and longer than adjacent bristles (inferred from relative sizes of alveoli, most of the bristles being missing), both these situated on lateral margin of 10th tergite, length of one of these 0·058 mm. Towards base of epiproct on each side of mid line a bristle, truncated distally but not dilated apically much longer than adjacent bristles on epiproct but shorter than the two bristles on 10th tergite laterally, length of this bristle 0·043 mm. First two abdominal tergites represented by one anterior and one posterior transverse sclerite and between these one or possibly two other such sclerites (abdomen telescoped at this point) ; remaining tergites uniformly sclerotised except for less sclerotised narrow posterior transverse bands (intersegmental membranes) on each of segments 3–7 and laterally on segment 8.

Body length approximately 1·20 mm. Other body measurements are as follows : Width of head capsule, 0·293 mm. ; length of humeral seta, 0·011 mm. ; greatest width of hind femur, 0·170 mm. ; length of hind tibia, 0·243 mm. ; length of 1st hind tarsal segment, 0·084 mm.

Discussion.

A comparison of the linear measurements with those of the species described by Broadhead (1947) indicates that *formicaria* is most closely related to *pubescens*. The length of the first hind tarsal segment and the greatest width of the hind femur are almost the same in these two species, but the width of the head capsule of *formicaria* is significantly larger than that of *pubescens*, lying well outside the range of the extreme measurements of this latter species. The average distance between the hairs on the vertex of the head (0·025 mm.) is greater than that in *pubescens* (0·017 mm.), and the hairs on the abdominal tergites in *formicaria* (0·007 mm.) are much shorter than those in *pubescens* (0·012 mm.). In the length of the longest apical abdominal bristle and of the bristle on the epiproct, it resembles *subfuscus*, and it resembles *divergens* in the length of the humeral seta.

Of the remaining taxonomic characters, the sculpturing is by far the most important. Of particular interest therefore is the fact that the sculpturing of *formicaria* is identical with that of *pubescens* except for the slightly larger size of the spindle-shaped areas in the former species, probably correlated with the larger size of the head. The colour of these two species is also very similar. In the chaetotaxy of the lateral lobes of the pronotum, *formicaria* is distinct and differs widely from *pubescens*. The chaetotaxy of the thoracic sternites is more difficult of comparison as the prothoracic sternite was distorted in the specimen examined. It is not certain whether the more posterior pair of bristles on the prothoracic sternite is comparable in position to the posterior pair in *divergens* and *subfuscus* or whether they are part of the anterior row.

In the former case the chaetotaxy of the sternites is identical with that of some individuals of *divergens*, in the latter case with that of some individuals of *luridus*. In either case it is significantly different from *pubescens*. The number of ommatidia is not a reliable taxonomic character since there is considerable variability in some species, particularly in *bakeri* and *liparus*. Hagen states that *formicaria* has 7 ommatidia, but in the cotype examined by me there are 8 in each eye, while *pubescens* has only 7. It is of interest to note, however, the close correspondence between the arrangement of ommatidia in *formicaria* and in one of the eyes of an individual of *subfuscus* which was aberrant in this respect (fig. 1). The genitalia of *formicaria* are, except for very minute differences, identical with those of the five other species mentioned above.

In conclusion, *L. formicaria* must be regarded as a species distinct from either *divergens*, *subfuscus*, *pubescens*, *luridus* or *liparus*. Since sculpturing is such an important character its closest affinities are with *pubescens*. Apart from the differences in the number of ommatidia, the chaetotaxy of the pronotum and of the thoracic sternites, the chief differences are merely differences in size, *formicaria* being larger than *pubescens* (*i.e.* width of head capsule) but having shorter bristles (humeral seta, bristles on epiproct and on abdominal tergites and the longest apical abdominal bristle). The possibility of their being regarded as two geographical races of the same species cannot lightly be dismissed, but this could only be determined by a statistical analysis of populations of *formicaria* in a manner similar to that done for *pubescens* (*vide* Broadhead, 1947).

REFERENCES.

Badonnel, A., 1943, Psocoptères, *Faune de France*, **42** : 1–164, 375 figs.

Broadhead, E., 1947, New species of *Liposcelis* (Corrodentia, Liposcelidae) in England. *Trans. R. ent. Soc. Lond.* [*in press*].

Broadhead, E., and Hobby, B. M., 1944, Studies on a species of *Liposcelis* (Corrodentia, Liposcelidae) occurring in stored products in Britain—Parts I and II. *Ent. mon. Mag.* **80** : 45–59, 163–173, figs. 1–22, Tables I–IX.

Hagen, H. A., 1865, Synopsis of the Psocina without ocelli. *Ent. mon. Mag.* **2** : 121–124.

Hagen, H. A., 1882, Erklärung der Tafeln zu den Psociden. *Stett. ent. Ztg.* **43** : 524–526, Taf. I, II.

Hagen, H. A., 1883, Beiträge zur Monographie der Psociden. Familie Atropina. *Stett. ent. Ztg.* **44** : 285–332.

ON *SPEISERIA AMBIGUA* KESSEL and *SYNTHESIOSTREBLA AMORPHOCHILI* TOWNSEND, WITH A REDESCRIPTION OF THE LATTER (DIPTERA, STREBLIDAE)

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In my paper *On Some American genera of the* Streblidae *and their species, etc.* (1939), *Speiseria ambigua* Kessel, 1925, and *Synthesiostrebla amorphochili* Townsend, 1913, were considered as the same species, and the former name was made a synonym of the latter. This was based on certain characters which were assumed to be common to both streblids and also upon the comparison of a specimen of *Speiseria ambigua* with the type specimen of *Synthesiostrebla amorphochili*, at the American Museum of Natural History. But there had obviously been an error in the comparison of these two streblids, because Bequaert (1942) examined another specimen of *Synthesiostrebla amorphochili* and found it not the same as *Speiseria ambigua*. In view of this discrepancy, I then examined a female specimen of *Synthesiostrebla amorphochili* which was compared with the type, and also found that it differed very distinctly from *Speiseria ambigua*. Therefore, *Speiseria ambigua* Kessel must be reinstated in its proper systematic position, and the name of all the specimens which were identified by me as *Synthesiostrebla amorphochili*, since the publication of the above-mentioned paper, should be changed to *Speiseria ambigua* Kessel.

For the specimen of *S. amorphochili* used in the preparation of this paper I am very grateful to Mr. R. L. Wenzel, of the Chicago Natural History Museum, who found this specimen on a preserved bat, *Amorphochilus schnablii* Peters, from Peru.

Structurally *Synthesiostrebla amorphochili* is a very unique streblid. Its head, like that of *Pseudostrebla* Costa Lima and *Stizostrebla* Jobling, is as broad in its posterior part as the anterior margin of the thorax. But it differs from these and all the other genera of the American Streblidae by the following structural characters :

Its head has a very distinct, narrow postvertex (vertical triangle), which is separated by the posterior branches of the mediovertex from the laterovertices. These branches of the mediovertex widen posteriorly, and each of them forms a groove (*g.*). Its head is also devoid of the membranes, which in the other American genera partly or completely separate the laterovertices with the eyes from the other regions of the head. Besides, its eyes occupy the ventral position, and only their three lateral facets are partly visible when the head is examined from above.

The thorax has also a very distinctive character which is peculiar to this genus. The anterior margin of its prescutum is produced into two sharp triangular teeth, which fit into the above-described grooves of the vertex when the head is elevated. Another character is present in the humeral caluses (*h.*). They are strongly enlarged, very long, flat and

projecting under the lateral parts of the head, which are also flat. It is quite obvious that these parts of the thorax and the correspondingly modified parts of the head serve to interlock these two regions of the body with each other.

This streblid has only been found on a very rare bat, *Amorphochilus schnablii* Peters. Therefore, it can be safely assumed that its geographical distribution corresponds with that of its host.

Synthesiostrebla Townsend, 1913.

Head subtrapezoidal; postero-lateral parts of vertex broadly rounded; occiput strongly depressed; posterior branches of mediovertex forming two anteriorly tapering grooves (*g*); frons indistinct, obscured by vertex and antennae; lateral parts of the ventral surface of the head flat. Eyes faceted and ventral. Palps more or less flabelliform, small and horizontal. Anterior margin of prescutum with two sharp, triangular teeth in the middle, which fit into the grooves of the vertex when the head is elevated; median suture distinct and as long as the prescutum; anterior part of scutellum not separated by suture from the scutum; humeral caluses (*h*) very large, flat and projecting under the lateral parts of the head. Wings normal, with six longitudinal and three cross veins; basal part of costal vein strong; halteres large. Hind legs elongated. Dorsal surface of abdomen with a very few setae in the anterior and the posterior part; posterior end of abdomen broadly conical, very pale (on slide) and devoid of setae.

Synthesiostrebla amorphochili Townsend, 1913.

Body 1·4 mm. long (on slide). Head flat, each half of vertex with a few moderately strong setae and a row of small setae along the margin. Ventral surface of head bare, except flat middle part around the rostrum membrane, which bears setae of varying length on its inner and outer margin. Eyes composed of about eight not quite distinct, pale facets. Anterior margin of palps with a few moderately strong setae, their ventral surface with four rows of small setae. Theca of labium piriform (*t*), with a very few minute setae; labella very short (*l*). Arista of antennae short, pencil-shaped.

Thorax slightly broader than long; dorsal surface of each humeral calus with two strong and a few small setae; prescutum with a few small setae near the anterior margin and on the teeth, the rest of its surface bearing moderately strong setae in the middle and a few stronger setae near the mesonotal suture; scutum with moderately strong setae in the anterior part and stronger ones in the posterior part; scutellum broadly triangular, with usual four setae, of which two very long ones arise close together in the middle and each short one near the lateral suture. Flat middle part of the ventral surface of thorax bearing small, thin setae, its anterior part strongly produced, bilobed and partly overlapping the coxae of the fore-legs.

Wings 1·2 mm. long, with broadly rounded apex; first longitudinal vein ends opposite the third cross vein; second longitudinal vein parallel to the first; third and fourth longitudinal veins divergent near the apex of the wings; all cross veins very pale. Legs bearing many small setae of varying length; hind-legs more than twice as long as the fore-legs; first segment of their tarsi longer than the following three segments; their coxae with two strong lateral setae in the middle; their femora with three strong ventral setae at the base, and their tibia with one strong seta dorsally at the tip.

Abdomen sacsiform, its lateral surfaces with strong setae, the ventra one with many much weaker setae; four setae anteriorly to the apical cone which bears four dorsal and a few marginal setae.

The type specimen of this rare streblid was taken from *Amorphochilus schnablii* Peters, in Piura, Peru. The homotype examined by me was found by R. L. Wenzel, on a preserved specimen of *Amorphochilus schnablii* Peters, in the Chicago Natural History Museum. The bat was

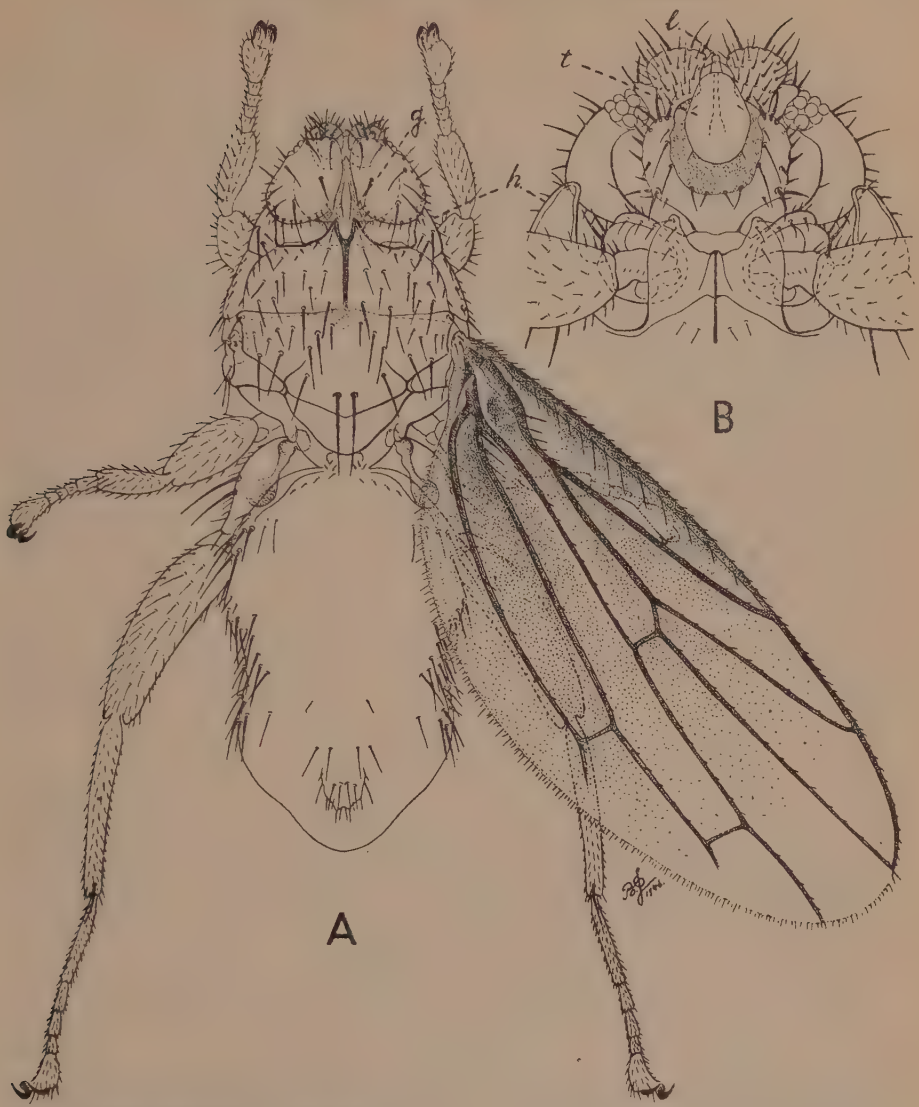

FIG. 1.—*Synthesiostrebla amorphochili* Townsend. *A*, dorsal view of female; *B*, ventral view of head and anterior part of thorax.

collected by C. C. Sanborn, in PERU, Areguipa, Tambo Valley, East Chucurapi, 17.v.1940.

REFERENCES.

BEQUAERT, J., 1942, The Diptera Pupipara of Venezuela. *Bol. ent. Venezolana* **1** : 79.

JOBLING, B., 1939, On Some American Genera of the STREBLIDAE and their species, with the Description of a new species of *Trichobius* (Diptera, CALYPTERAE). *Parasitology* **31** : 486.

KESSEL, Q. C., 1925, A Synopsis of the STREBLIDAE of the World. *J. N. Y. ent. Soc.* **33** : 11.

TOWNSEND, C. H. T., 1913, A New Genus of STREBLIDAE. *Proc. ent. Soc. Wash.* **15** : 98.

SOME SPECIES OF *COSMOCLOSTIS* (LEP. : ALUCITIDAE)

By T. Bainbrigge Fletcher, R.N., F.L.S., F.R.E.S., F.Z.S.

The "Plume-moth" genus *Cosmoclostis* was founded in 1886 by Meyrick on a single example of the Australian species, *aglaodesma* Meyrick, its genotype. With its silvery-white abdominal blotches and its white forewings with ferruginous markings, *C. aglaodesma* was, as Meyrick stated, "a conspicuously distinct and handsome species," one result of this being that practically all specimens having a somewhat similar appearance were taken to be *aglaodesma* until its distribution was supposed to extend from Eastern Australia to the Solomon Islands, some of the South Pacific and Malayan Islands, Ceylon and India, and even to East Africa. Some years ago the acquisition of a specimen from Queensland led me to question its identity with the Indian examples also standing under *aglaodesma* in my collection, but the material available for study was scanty. A little later, Professor A. J. T. Janse very kindly sent me two *Cosmoclostis* specimens from New Ireland and these, although superficially rather similar to the Australian form, evidently indicated yet another species. More material for study proving necessary, the British Museum (Natural History) lent me 25 specimens representing its series of "*Cosmoclostis aglaodesma*." Examination of this, together with my own material, showed not only that the New Ireland species was distinct but that the Eastern Australian material comprised two still more closely allied forms, either of which could be fitted to Meyrick's original description of *aglaodesma*, and which was the true *aglaodesma* could only be resolved by inspection of the type, if this were still extant in the Meyrick Collection. This fortunately proved to be the case, although it was not until 30th July, 1946, after an interval of over six years caused by the war, that I was able to examine the Meyrick series standing as *aglaodesma*, and found it to contain the original type specimen, indubitably indicated by its label, "Sydney : on a fence," thus confirming which of the two East Australian species was the true *aglaodesma*. With a fixed point of departure, the characters of *aglaodesma* could be checked and augmented and the second Australian species described and named with some confidence, as well as the other non-Australian species hitherto wrongly identified, the nett result being the addition of five new species to the five species previously described.

In each case my description has been drawn up from the type-specimen, any particulars taken from other examples being included within square brackets. The descriptions have been made as detailed and complete as possible : by some they may be considered to be unduly prolix, but my experience has shown that it is most desirable to state every character which may be of use, not merely for the naming of a specimen as belonging to the species in question, but for its differentiation from closely allied forms which may come to light in the future.

Meyrick's original description of his *C. aglaodesma*, for example, is far too brief to indicate which is his species when more than one species is in question. Many years ago Mr. Meyrick told me that he did not believe in the value of type-specimens and that his description should be taken as the type of a species. Here is a case in point. Had not his original example of *aglaodesma* been available for reference, it would have been impossible to have been absolutely certain of which species it really was.

My usage of terms to indicate categories of typical specimens is simple. I take as a type a single specimen, of either sex, from which the original description is drawn up : such terms as "Holotype" and "Allotype" seem unnecessary. Where the describer has more than one example before him, the specimens (other than the type) in this series are co-types, unless the describer indicates otherwise (on account of poor condition, variation, etc.). By "Paratype" I indicate any specimen which has been compared with the type and found to be identical.

So far as is known at present, the species of the genus *Cosmoclostis* are found only in Africa, Ceylon–Burma, and Australia–New Ireland, such distribution seeming to add one more small point of support for the Wegener Theory.

The African Species.

The two African species, known so far, are easily separable :—

Abdomen above with some metallic coppery scales . . . *chalconota*
Abdomen above without metallic coppery scales . . . *brachybela*

Cosmoclostis chalconota sp. n.

♀ Expanse about 17–18 mm. (vaset and tip of right fore-wing broken).

Head pale ferruginous, mixed whitish : a broad white fillet across frons between antennae, followed by a row of ferruginous scales ; back of head more whitish, with some short erect hair-scales enlarged at their bifid ferruginous tips : tongue well developed.

Antennae : scape short, dilated, white ; flagellar segments on basal third white, broadly banded pale ferruginous, on terminal two-thirds almost wholly dull pale ferruginous-brownish, paler above.

Labial palpus filiform, very short, little exceeding breadth of eye, whitish : terminal segment rather shorter than second, its tip moderately acuminate.

Thorax shining white, anterior margin narrowly, posterior margin more broadly (but indefinitely) and tips of tegulae pale brownish-ferruginous.

Abdomen rather stout, creamy white : segments (except basal) with dorso-lateral brown-ferruginous blotches continued obliquely downwards along succeeding segments, segment 5 also with ill-defined similar streaks from dorsum near base of segment, diverging towards apex and also continued obliquely downwards and darker on segment 6, segment 2 overlaid above with silvery-white scales erected along posterior margin, segment 4 overlaid above with silvery-white scales slightly raised on either side on posterior margin where these scales are slightly yellowish at their tips, segment 6 overlaid above with silvery-white scales which on posterior half of segment are tinged yellowish towards their tips and are very slightly raised before posterior margin which is edged with shining coppery scales, segment 7 with a broad lateral brown-ferruginous stripe ; venter silvery-white, tinged pale yellow on segments 3–6 : the abdominal markings described above as brown-ferruginous show a bright coppery tinge in certain lights.

Legs (broken : stumps whitish).

Fore-wing cleft from about $\frac{1}{3}$, segments linear, first segment slightly broader than second : shining white : costa narrowly pale-ferruginous sparsely sprinkled on basal third with dark red-brown, a sparse sprinkling of red-brown scales along dorsum to $\frac{1}{3}$ and a

slight aggregation of similar scales across wing at ⅓ but not forming a band ; first segment at base with a small cluster of red-brown scales, from about ¼ to ½ of its length irrorated with red-brown (outer half of segment rubbed on one wing, defective on other wing, apparently tinted pale yellowish) ; second segment, basal fourth tinged slightly yellowish and coarsely irrorated with red-brown, a small similar patch of irroration just beyond ½ (the edges of these two patches roughly corresponding to outer edges of darker area of first segment) and a narrow praeterminal bar of dark red-brown : cilia on costa pale ferruginous to ⅔, at apex ferruginous-brown, on lower margin of first segment greyish tinted pale ferruginous on basal half of segment, thence pale ferruginous-brown, pale fuscous before tip of segment, ferruginous-brown beneath tip, on fore-margin of second segment greyish tinted pale ferruginous to ⅔ of segment, rather darker opposite to and just beyond patch slightly beyond ½ of segment, then very pale yellowish, and red-brown from just before praeterminal patch to tip of segment, on dorsum pale red-brown before cleft, then pale-yellowish beneath base of second segment, a darker wisp near outer end of basal patch on second segment, followed by pale yellowish to patch beyond ½ of second segment, thence slightly darker red-brown to tip of second segment, around which cilia are ferruginous brown.

Hind-wing cleft from near base and from base, segments long, very slender, linear, pale ferruginous-grey, third segment lighter, tips of segments darker : cilia on costa pale blackish, on dorsum pale ferruginous-grey, otherwise pale greyish with slight ferruginous-lustre, at extreme tips of segments whitish at bases.

Uganda : Kampala, 16.xi.1930, one ♀ (*G. H. E. Hopkins coll.*). Type in British Museum (Natural History), previously determined by Mr. Meyrick as *C. aglaodesma* Meyrick.

Cosmoclostis brachybela sp. n.

♀. Expanse 14 mm.

Head whitish, back of crown with erect pale rusty-yellow hairs bifid at tips : tongue developed.

Antenna : scape moderate, whitish ; flagellar segments whitish, spotted dull pale ferruginous on rather expanded tips.

Labial palpus rather appressed to face, short, its tip reaching to half-way of eye, pale rusty-yellow ; third segment slightly longer than second, tolerably acuminate.

Thorax white, anterior margin very narrowly, posterior margin and tips of tegulae moderately broadly suffused pale ferruginous-brown.

Abdomen white sprinkled with pale ferruginous-brown : dorsal area of second segment overlaid with shining-white scales, of third and fifth segments irregularly but almost wholly suffused reddish-brown, of fourth, sixth and eighth segments with shining-white scales, of seventh segment with rather duller pale yellowish-grey scales, the pale dorsal areas of segments 6 and 7 bounded on either side by a narrow dark fuscous line running along latero-dorsal region from posterior corner of the darker dorsal suffusion on segment 5 ; venter shining white.

Fore-leg whitish : tibia short, lined above and obliquely banded on side near base and at middle with ferruginous, apex slightly expanded, ferruginous.

Mid-leg white : tibia long, obliquely banded thrice on outer side with ferruginous, apex slightly dilated with ferruginous scales and emitting a pair of spurs of which the inner is the longer.

Hind-leg white : tibia long, suffused on outer side with ferruginous from ⅖ to ⅔, where it is distinctly thickened towards point of emission of proximal spurs and on upper side bears a small tuft of white scales just before this point, and it is again slightly thickened towards apex, which is moderately broadly ringed with ferruginous ; some very short projecting white hair-scales on upper surface of basal third ; proximal spurs from ⅔, spurs long, rather

blunt-pointed, white, black toward bases and broadly blackish towards tips, inner spur the longer and about $\frac{1}{3}$ length of tibia ; distal spurs from apex, as proximal spurs, but inner spur more acuminate, rather longer than outer, as long as first tarsal segment ; tarsus, first segment rather short, $\frac{2}{3}$ length of tarsus, broadly banded at its tip with ferruginous-brown, segments 2–4 rather shining white, fifth segment blackish.

Fore-wing cleft from slightly beyond $\frac{2}{3}$, segments linear, of equal breadth : white, finely sprinkled with dark ferruginous-brown, especially evident on basal area from base to cleft, and with ferruginous brown along costa : a dark subcostal dot at $\frac{1}{4}$; first segment at base of cleft with a small dark ferruginous-brown spot, from $\frac{1}{4}$ to $\frac{1}{2}$ of its length dark ferruginous-brown with some blackish scales along its lower margin, at $\frac{3}{4}$ of its length some scattered dark scales scarcely forming a bar, and a few dark scales on apex ; second segment with slight dark-ferruginous-brown blotch at base of cleft and with its first fourth rather strongly irrorated, its second quarter almost wholly white, followed from beginning of third quarter to about $\frac{3}{4}$ by another patch of irroration most evident on dorsum, then again white except for a small patch of blackish suffusion immediately before tip of segment : cilia on costa before apex pale whitish-yellow, white above apex, dark fuscous beneath apex and on fore-margin of second segment before its tip, otherwise within cleft pale ferruginous, palest towards base of cleft, on tip of second segment dark fuscous, on dorsum pale ferruginous-grey, slightly darker from $\frac{1}{2}$ to $\frac{3}{4}$ of second segment, thereafter pale whitish-yellow.

Hind-wing cleft from near base and from base, segments very narrow, linear : whitish coarsely sprinkled dull ferruginous-grey, tip of first segment slightly darker : cilia grey with a strong ferruginous lustre in certain lights.

Transvaal : Barberton, 9.xii.1910, one ♀, type *A. J. T. Janse coll.* (*Fletcher Colln.* 10323) ; received as "*Diacrotricha pesseuta*, Meyr.", and this is apparently the specimen recorded from the Transvaal as *C. pesseuta* by Meyrick, 1913, *Cat. Pteroph.* : 3.

Oriental Species.

The Oriental species number five, including one new species. Of the other species described previously :—

(1) *Cosmoclostis auxileuca* Meyrick, 1908 (*Trans. ent. Soc. Lond.* **1907** : 471), from the Khasi Hills, is unknown to me except by description, according to which the abdomen has "three" silvery-white transverse bands and is "irregularly" marked with ferruginous, and the first segment of fore-wing has "two dark fuscous marks on costa before and at middle." This description, which is too brief, may possibly be intended for *C. leucomochla*, but does not agree in these points. The locality "Khasi Hills" probably refers to the road running down from Cherrapunji (about 4,500 feet) to the Plains of Sylhet.

(2) *C. pesseuta* Meyrick, 1906 (*J. Bombay nat. Hist. Soc.* **17** : 134) was described from only two specimens, ♂♀, from Ceylon, Puttalam. From the sexual differences in abdominal markings stated, it seems possible that this description included two species. In his *Cat. Pteroph.*, p. 3 (1913), Meyrick recorded *pesseuta* also from Assam and the Transvaal, but the latter locality really concerned *C. brachybela*. A specimen in the British Museum (ex Fletcher Colln. 7646) from Ceylon, Southern Province, Yala, 9.ii.1909 (*Fletcher*), may perhaps be *pesseuta*, but is too worn for exact determination.

(3) *C. premnicola* Fletcher, 1932 (*Ind. Agric. Sci. Monogr.* **2** : 1–2, t. 1), was described from India, N. Bihar, Pusa, and I note that the labial palpus, described as "drooping" in the type, may be rather

ascending, its second segment almost straight, short, less than breadth of eye, terminal segment less than half of second, in ♂ dark, and that the abdominal segments were misnumbered by one in excess of the real number, so that "third" segment is really second, and so on. A very worn specimen from the UNITED PROVINCES, Kathgodam, and one (without abdomen) from the ANDAMANS, Mount Harriet (1,200 feet), 16.iv.–7.v.1927 (*Ferrar*), both in my collection, seem to belong here. In the British Museum also there is a specimen from CEYLON, Kegalle, x.–xi.1908 (*Ormiston*) (ex *Fletcher Colln.* 7429), which was apparently recorded by me as *aglaodesma* in 1909 (*Spolia Zeylanica* 6 : 32).

(4) *C. quadriquadra* Walsingham, 1900 (*Monogr. Christmas Isd.* : 75–76), was described from Christmas Island. If the description is accurate, the thorax is "yellowish-white anteriorly, rust-brown posteriorly" above, and the abdomen "rich rust-brown, with four quadrate whitish patches above—one basal, one antemedian, one postmedian, and one on the anal segment," and the ground-colour of fore-wing "yellowish-white." I have seen no *Cosmoclostis* species with a similarly coloured thorax and fore-wing and with a truly basal white patch on first abdominal segment, so that only three patches occur on the other segments, or any species in which these markings are truly quadrate, so that this species should be distinct.

The descriptions of *auxileuca*, *pesseuta* and *quadriquadra* are not sufficiently detailed, but, assuming their correctness so far as they go, the Oriental species may be tabulated as :—

1. Abdomen with pure silvery-white markings 2
   Abdomen with whitish markings 3
2. Abdomen with 3 silvery-white bands . . . *auxileuca*, Meyrick
   Abdomen with 4 silvery-white dorsal marks . *leucomochla*, Fletcher
3. Thorax yellowish-white anteriorly ; fore-wing yellowish-white *quadriquadra*, Walsingham
   Thorax whitish except on anterior and posterior margins ; fore-wing white 4
4. Abdomen ♂ white, irregularly marked ferruginous, ♀ pale yellow, last 3 segments marked ferruginous . . . *pesseuta*, Meyrick
   Abdomen ♂♀ whitish or whitish-yellow with regularly-shaped pale ferruginous-fuscous markings more or less on all segments *premnicola*, Fletcher

Cosmoclostis leucomochla sp. n.

♀. Expanse 15 mm.

Head white, a snow-white fillet between eyes [crown sometimes irrorated with ferruginous], back of crown with forwardly-erected pale-ferruginous hair-scales, bifid at tips : tongue well developed.

Antenna : scape rather long, white [sometimes ferruginous towards tip] ; flagellum dull whitish, faintly darkened towards apex.

Labial palpus slender, porrect, total length less than 1½ breadth of eye, whitish, third segment rather shorter than second, acuminate.

Thorax snow-white ; anterior margin narrowly, posterior margin and tips of tegulae more broadly ferruginous.

Abdomen stout, white : first segment flecked with ferruginous especially along posterior margin, dorsum of second segment with a large trapezoidal patch of silvery-white scales slightly raised at posterior margin and edged on either side at base of segment with a patch

of bright ferruginous scales, third segment dorsally broadly ferruginous-brown at base, mid-dorsally with a broad longitudinal patch of ferruginous-brown expanding posteriorly and continued rather obliquely downwards on sides of fourth segment which is otherwise overlaid with silvery scales, fifth segment with two short narrow almost parallel longitudinal streaks of ground-colour, one on either side of mid-dorsal line, and a lateral elongate downwardly oblique patch of ground-colour, otherwise ferruginous-brown, sixth segment ferruginous-brown laterally, on dorsum with a patch, narrower at base, slightly raised posteriorly, of silvery-white scales, seventh segment with a broad dull ferruginous-brown dorsal stripe, eighth segment silvery-white with a ferruginous-brown lateral stripe not reaching to end of scaling covering genitalia ; pleural region pale yellowish ; venter white.

Fore-leg white : femur tinted pale ferruginous exteriorly ; tibia obliquely barred exteriorly with ferruginous-brown, apex slightly dilated with short projecting ferruginous spinules ; tarsus, first segment slightly shorter than 2–5 together and lined exteriorly with ferruginous.

Mid-leg white : femur lined above dark ferruginous ; tibia above with two oblique dark ferruginous bars, slightly dilated with ferruginous spinules at apex which emits a pair of slender acuminate spurs of which the inner is about twice as long as outer and is approximately as long as first tarsal segment ; tarsus, first segment shorter than 2–5 together, segments 1 and 2 faintly banded pale ferruginous at tips.

Hind-leg silvery-white : tibia, except for ill-defined patches above near base and between pairs of spurs and beneath on basal half, overlaid with ferruginous scaling, proximal spurs from $\frac{2}{3}$, slender, acuminate, faintly banded darker towards tips, tip of outer spur exceeding apex of tibia, inner spur still longer, about half length of tibia, distal spurs from apex, white, faintly darker towards tips, outer spur slightly the longer and as long as first tarsal segment ; tarsus, first segment $\frac{3}{4}$ as long as 2–5 together, ferruginous with a longitudinal streak above towards its tip, which is very finely edged blackish, second segment white, suffused beneath ferruginous towards its tip which is finely edged blackish, third and fourth segments white banded pale ferruginous at tips, fifth segment white above, blackish at apex.

Fore-wing cleft from about $\frac{1}{5}$, segments linear, first segment at half its length scarcely broader than second : snow-white : costal area (except near base) to $\frac{1}{2}$ of first segment narrowly pale ferruginous, dorsal margin to cleft faintly irrorated very pale ferruginous, beneath costa and rather nearer to base of cleft than to base of wing a small cluster of dark ferruginous scales forming an ill-defined dot ; first segment, on lower margin near base a small elongate blackish-ferruginous dot, third sixth of segment pale ferruginous edged blackish along lower margin of segment and very shortly along costa on outer edge of this patch, at $\frac{5}{6}$ of segment a shorter and less conspicuous bar of pale ferruginous and a narrow outwardly oblique transverse line immediately before apex ; second segment on fore-margin near base with a dot opposite to and similar to that on first segment, first $\frac{1}{6}$ of segment very pale ferruginous, second, fourth and last sixths coarsely sprinkled with blackish-ferruginous-brown scales which on fore-margin extend also slightly on to third sixth, so that the inner edge of the first white band of ground-colour, at about middle of segment, is inwardly oblique : cilia on costa very pale ferruginous, on and immediately beneath apex blackish-brown, on lower margin of outer sixth of first segment fuscous, on dorsum ferruginous-grey, pale fuscous beneath dark area beyond half of second segment, otherwise greyish with slight pale ferruginous sheen.

Hind-wing cleft from near base and from base, segments very narrow, linear : pale golden-grey : cilia also pale golden-grey, rather darker on costa and paler on dorsum.

Type ♀ in British Museum (ex Fletcher Colln., No. 6608), Trincomali, Sober Island, at light, 8.vi.1907 (*Fletcher*) ; cotypes, in British Museum (N.H.), (1) ♂ Kurunegalle, x.–xi.1908 (*Ormiston*) (ex Fletcher Colln. 7423), (2) Anuradhapura, xi.1908 (*de Mowbray*) (ex Fletcher Colln. 7666),

(3) (body lost) Colombo, vii.1908 (*Mackwood*) (ex Fletcher Colln. 7266); in my collection, (4) ♀ Trincomali, Sober Island, 11.xi.1906, at light (*Green*), (5) ♀ at light in train near Polgahawela, 20.iv.1914 (*Fletcher*)—all the foregoing localities in Ceylon—(6) ♀ Burma; Yedashe, 9.iii.1918 (*Rao*). In the British Museum there is also one specimen, minus abdomen and legs, which probably belongs here, but its markings are more strongly ferruginous; it is labelled S. India, [N. Kanara], Karwar, 1901, *T. R. Bell*, B.M. 1934–394.

In general size and appearance *C. leucomochla* is rather similar to *C. premnicola* Fletcher, but in the latter the dorsal abdominal blotches are not conspicuously silvery and the first fourth of second segment of fore-wing is occupied by strong dark fuscous irroration.

Australian Species.

The Australian Species, three in number, are very similar superficially but may be separated :—

1. Hind-tibia marked white above at origin of proximal spurs *lamprosema*, Fletcher
   Hind-tibia not marked white above at origin of proximal spurs . 2
2. Fore-wing dorsal cilia without darker shade on either side of white marking just beyond ¾ of second segment . *aglaodesma*, Meyrick
   Fore-wing dorsal cilia distinctly darker before and beyond this white marking . . . . . *hemiadelpha*, Fletcher

Cosmoclostis aglaodesma Meyrick, 1886,

Cosmoclostis aglaodesma Meyrick, 1886, was described by Meyrick (*Trans. ent. Soc. Lond.* 1886 : 13) from a single female found on a fence at Sydney, New South Wales, and was subsequently figured by him in Wytsman's *Genera Insectorum*, fasc. 100, tab. *f.* 1. (1910).

Three specimens in the British Museum (N.H.) from Queensland, Toowong [a suburb of Brisbane], *Dodd*, two on 10.ii., one on 15.iii.1897, agree tolerably with the description and figure and are the true *aglaodesma*. I note, however, the following points to aid future recognition more exactly :—

Head : a small tuft of chestnut-ferruginous hairs from head is closely appressed to back of antennal scape, projecting slightly beyond its tip.

Labial palpus, described simply as "ferruginous," has segments 1 and 2 white, segment 3 ferruginous (in ♂ paler); segment 2 is upcurved, its tip reaching to a level about half-way up the eye, segment 3 porrect, rather longer and stouter than second, filiform, very blunt-pointed.

Abdomen : first segment (by description, with two small longitudinal white marks) has an oblong white spot placed transversely on its basal margin, as is shown in the figure quoted.

Fore-leg (described as blackish-ferruginous, obscurely banded with white) has coxa silvery-white, femur white beneath, lined blackish above, tibia short, dilated at apex with blackish-ferruginous hair-scales, blackish, marked above with two oblique white stripes, tarsus slender, segment 1 longer than 2–5 together, segments 1 and 2 blackish-ferruginous lined exteriorly at bases with white, segment 1 similarly lined at half-length, segments 3 white, 4 and 5 blackish.

Mid-leg (described as ferruginous, sharply obliquely banded with white) has coxa silvery-white, femur white, lined blackish on anterior margin, tibia as described, slightly

dilated at apex, which emits a pair of very unequal spurs, the inner spur, white on inner side and ferruginous on outer side, less than half length of outer spur, which is approximately as long as first tarsal segment and beneath is white and above is dull fuscous broadly whitish in middle and with a white tip, tarsus white beneath, first segment shorter than 2–5 together, above ferruginous-brownish, narrowly barred white at base and at ⅓ of its length, darker towards its tip, segment 2 white above near base, otherwise blackish, segment 3 white, segments 4 and 5 dark ferruginous-fuscous above.

Hind-leg is presumably included in description under "legs ferruginous" : coxa silvery-white ; femur pale ferruginous-whitish ; tibia slender, ferruginous, more whitish beneath, scaling slightly raised above at points of emission of spurs, proximal spurs from slightly before ⅔, long, slender, acute, inner spur (about ½ of tibia) rather longer than outer, which is slightly darkened above and has a faintly white tip, distal spurs from apex, shorter than proximal spurs, paler, darker before whitish tips, inner spur about ¾ of first tarsal segment, rather longer than outer spur ; tarsus pale ferruginous, second segment white above near base, third segment white above except at base and towards tip.

Fore-wing (described as silvery-white with ferruginous markings) is silvery-white with markings rusty-red except for the ferruginous-orange costal stripe ; "second segment wholly ferruginous, with a white spot rather near its base" by description, but in these Queensland specimens the extreme base of second segment is white. In both these points the specimens agree with Meyrick's figure rather than with his description. The segments were merely described as "linear" ; in these specimens at about its mid-length the first segment is approximately twice as broad as the second. The cilia were described as "pale beneath, on costa ferruginous "; in these specimens the cilia are ferruginous-orange on costa, rather darker above and shortly beyond bar at ½ of first segment, on extreme apex a rather strong blackish wisp, within cleft dark fuscous, on dorsum pallid ferruginous with a slight sheen.

Hind-wing was described simply as "ferruginous-fuscous ; cilia light brownish." In these specimens segments 1 and 2 may be taken to be ferruginous-fuscous, but segment 3 is paler and, with dorsal cilia, of a pallid ferruginous with a slight sheen, concolorous with dorsal cilia of fore-wing ; the other cilia are fuscous on fore-margin of all segments, rather paler on lower margins of segments 1 and 2.

These Toowong specimens expand ♂ 16 mm., ♀ 18 and 19 mm., so agree in size with *aglaodesma*, of which the type, taken "on a fence" in Sydney, is now in the Meyrick Collection in the British Museum and has been seen by me.

Cosmoclostis hemiadelpha sp. n.

♂. Expanse 15 mm.

Head pale ferruginous-ochreous : face whitish, between antennae a shining-white fillet narrowly edged behind with ferruginous, back of head with forwardly erected hair-scales bifid at tips.

Antenna : scape moderate, white, thickened above with snow-white scales projecting slightly at apex, hinder edge dull pale ferruginous ; flagellar segments pale ferruginous-grey, scaled white above.

Labial palpus filiform, second segment white, upbent, its tip about on a level with top of eye, third segment porrect or semi-erect, straight, shorter than second segment, slightly tapered to rather acute apex, pale ferruginous.

Thorax silvery-white : anterior margin narrowly pale ferruginous-ochreous [posterior margin and tips of tegulae bright ferruginous].

Abdomen brownish-ferruginous : segment 1 rather duller, with a rounded silvery-white patch on either side, segment 2 almost wholly covered above with a large trapezoidal patch, broader posteriorly, of silvery-white scales which are raised over hinder margin of segment, segment 3 on each side with a moderate silvery-white patch commencing subdorsally and narrowing slightly as it runs obliquely downwards and terminates at about half-length of segment 4, which has a large dorsal silvery-white patch as on segment 2, segment 5 with a

few white scales forming indistinct subparallel subdorsal lines, segment 6 with a silvery-white spot as on segment 2 but smaller and more quadrate and less raised on hind-margin, segment 7 with a few silvery-white scales along hinder-margin and forming a small blotch, segment 8 covered above with silvery-white scales edged cupreous on apex and sides: venter silvery-white.

Fore-leg: coxa and femur ferruginous-ochreous, coxa rather silvery on inner surface, femur lined white beneath, tibia short, expanded towards apex, pale ferruginous with some white admixture, tarsus slender, fuscous above, first segment longer than tibia, shorter than 2–5 together, segments 1–4 on outer sides white but dusky-ferruginous towards tips.

Mid-leg: coxa rather silvery, femur pale ferruginous-ochreous, white beneath, tibia white, twice obliquely barred above with pale ferruginous, apex slightly expanded with dark spinules and emitting a pair of spurs of which the inner is the longer and exceeds first tarsal segment, tarsus whitish beneath, above pale feruginous, segments 1 and 2 with a white basal bar and broader dark fuscous apical bar, segment 3 white except at tip.

Hind-leg: coxa and femur silvery-white: tibia long, slender, golden-ferruginous, paler beneath on basal half, very slightly dilated at points of emission of spurs with short semi-erect spinules of which those on apex of tibia are white at tips, tibia paler immediately beyond proximal spurs and with a conspicuous white dot above before apex, proximal spurs from slightly before $\frac{2}{3}$, long, slender, acuminate, darker towards tips, inner spur longer than outer, which is about $\frac{1}{3}$ of tibia, distal spurs similar but rather shorter, inner spur the longer but shorter than first tarsal segment; tarsus ferruginous, first segment as long as 2 and 3 together, segments 4 and 5 fuscous.

Fore-wing cleft from slightly beyond $\frac{1}{3}$, segments linear, at half their length first segment nearly twice as broad as second: snow-white: costa edged ferruginous-orange from about $\frac{1}{5}$ to near apex, rather more broadly between $\frac{1}{4}$ and $\frac{5}{8}$, dorsum edged ferruginous but more broadly so towards base, a few ferruginous scales, not forming a bar, across wing rather nearer to cleft than to base; first segment with a few ferruginous scales on lower margin at base, at about $\frac{1}{5}$ a moderate ferruginous-orange bar, its inner edge outwardly oblique, its lower margin containing darker scales, at rather beyond $\frac{3}{4}$ narrower outwardly-oblique ferruginous-orange bar; second segment golden-ferruginous, first $\frac{1}{4}$ irrorated dark ferruginous, outer halves of second and third fourths strongly irrorated ferruginous-blackish, rather over first half of fourth quarter pure white, then ferruginous-blackish with a faint white dot on tip: cilia on costa narrowly black to about $\frac{1}{5}$, thence ferruginous-orange to apex, but black along upper edge of orange bar at $\frac{1}{2}$ of first segment and very shortly at bases only above praeapical bar, on apex a long projecting blackish wisp, within cleft fuscous-grey, rather darker towards termination of cleft, on tip of second segment blackish at bases, on dorsum ferruginous-golden with darker wisps before and beyond the white bar on second segment.

Hind-wing cleft almost from base and from base, segments very narrow, linear: pale golden very faintly irrorated pale ferruginous: cilia pale golden, darker on costa and with darker bases on apex.

Type ♂ in British Museum, QUEENSLAND, Cedar Bay [ten miles south of Cooktown] (*Meek* 1894) (Wlsm. Colln. 17582); seven cotypes ♂♀ from same locality in British Museum (5) and Fletcher Collection (2).

The expanse of ♂ is about 15–16 mm., of ♀ about 16–17 mm.

Two specimens (♂ 15 mm., ♂ 17 mm.) in British Museum from NEW GUINEA, Dinner Island, Mangrove Swamps, vii.1887 (*Kowald*) (ex Wlsm. Colln.), are apparently the same species, but are not in good condition, so I do not make them cotypes.

Cosmoclostis lamprosema sp. n.

♂. Expanse 21 mm. [♀ 22 mm.]

Head: face ferruginous with short hair-scales projecting along upper margin of eye;

a fillet of snow-white scales between antennae, edged posteriorly reddish-ferruginous ; back of head with long forwardly-erected ferruginous-ochreous hair-scales bifid at tips : tongue well developed.

Antenna : scape rather short and stout, overlaid with scales, snow-white on inner side, bright ferruginous on outer side and projecting as a very short tuft at apex ; flagellum snow-white on inner (upper) side on about its basal half, thence dotted with fuscous, and about terminal fifth wholly fuscous, on outer (lower) side pale ferruginous on basal half.

Labial palpus filiform : second segment slightly upbent, its tip reaching to about $\frac{2}{3}$ height of eye, whitish ; third segment straight, porrect, tapering slightly to rather blunt tip, about $\frac{2}{3}$ of second segment, pale ferruginous [in ♀ second segment also pale ferruginous, except towards base].

Thorax snow-white, anterior margin narrowly, posterior margin and tips of tegulae broadly bright rusty-red.

Abdomen large and stout, not tapered, scaling rather metallic in a strong light : segment 1 greyish-white on base, yellowish-white on sides, otherwise bright ferruginous; segment 2 bright ferruginous but almost wholly covered by a trapezoidal patch, raised posteriorly, of silvery scales occupying central third of anterior margin of segment and the whole posterior margin, and a small lateral patch of silvery scales ; segment 3 bright ferruginous, on either side of its posterior half a broad silvery streak running almost from mid-dorsum to outer side of posterior margin and thence continued obliquely on to segment 4, and a broad lateral silvery streak ; segments 4 onwards rather darker ferruginous than segments 1–3 ; segment 4 anteriorly with a short silvery mid-dorsal line which at about $\frac{2}{3}$ length of segment broadens abruptly into a rather triangular patch of silvery scales, slightly raised along posterior margin of segment [in ♀ the mid-dorsal line is lacking and the anterior edge of the white patch is more rounded and its outer corners are continued obliquely downwards on to the next segment] ; segment 5 unmarked above, with considerable admixture of white scales on sides ; segment 6 with a trapezoidal patch of silvery scales, commencing on base of segment but only covering $\frac{2}{3}$ of its breadth and length, scaling along hinder-margin of segment with a distinct purplish lustre ; segment 7 short, with a rather broad dorsal silvery-white stripe ; segment 8 with a broader similar stripe, covering half of upper surface, ferruginous scaling on either side of this stripe with a distinct purplish tinge, anal tuft cupreous : venter silvery-white, not sharply demarcated along sides.

Fore-leg [defective in type : in ♀ from New Ireland coxa and femur very pale ferruginous (apparently discoloured, probably originally silvery-whitish) ; tibia very short, rather dilated towards apex, beneath blackish, above pale ferruginous with a short oblique streak at $\frac{1}{3}$; tarsus long and slender, beneath blackish, above fuscous-ferruginous, segment 1 as long as 2–5 together, basal half of segment 2 and segment 3 except extreme tip white above. In ♂ from Amboyna coxa and femur silvery-whitish, femur lined above fuscous-ferruginous, tarsus blackish, first segment narrowly lined white above except at its tip, segments 2–5 white above except at tips.]

Mid-leg : coxa and femur silvery-whitish, femur long and slender, ferruginous above ; tibia slender, with a small semi-erect tuft of hair-scales above slightly before $\frac{1}{2}$ and slightly dilated at apex with semi-erect spinules, ferruginous, above with four oblique white bars, apex emitting a pair of spurs, of which the inner is much the longer, more than half length of tibia and as long as first tarsal segment, which itself is as long as segments 2–5 together and is pale ferruginous, white-banded at base and rather darker at its tip, second tarsal segment pale ferruginous, white-banded at base, segment 3 more whitish, segments 4 and 5 pale fuscous.

Hind-leg : coxa and femur silvery-white ; tibia long and slender, golden-ferruginous, deeper ferruginous above on apical $\frac{2}{3}$, rather dilated at $\frac{2}{3}$ and apex (at points of emission of spurs) with small tufts of semi-erect white spinules, moderately barred above with ferruginous-whitish beyond origin of proximal spurs and with an oblique white bar above between proximal and distal spurs, proximal spurs very long, slender, acuminate, outer spur about $\frac{1}{3}$ of tibia, inner spur longer, distal spurs subequal, almost as long as first tarsal

segment, more blunt-tipped than proximal spurs ; tarsus [last three segments missing in type, described from ♀ : segment 1 as long as 2 and 3 together, basal half bright ferruginous, distal half pale ferruginous, blackish at apex, segment 2 proximal half pale ferruginous, distal half blackish, with a slight tuft of blackish hairs above on its tip, segment 3 pale ferruginous, segments 4 and 5 blackish.]

Fore-wing cleft from $\frac{1}{4}$, segments linear, at half their length first segment about $1\frac{1}{2}$ as broad as second : snow-white : costal margin narrowly blackish from base to $\frac{1}{4}$, thence pale orange to half of first segment, dorsal margin to $\frac{1}{4}$ edged bright rusty-red, more broadly towards base ; first segment on its lower margin near base with two ferruginous scales, at $\frac{1}{3}$ of its length with a rather broad black bar, its upper edge crossed by the orange costa edging which terminates on its outer side, at about $\frac{5}{6}$ with a narrower, outwardly oblique, rather irregular black bar [of black and dark ferruginous scales in ♀], broader on lower margin of segment, extreme apex black ; second segment golden-ferruginous, irrorated ferruginous at base for a short distance, with rather broad bars of ferruginous-blackish scales rather before $\frac{1}{2}$ (the outer edge of this bar opposite middle of central black bar on first segment) and from beyond $\frac{1}{2}$ to $\frac{3}{4}$ (the outer edge of this bar rather within inner edge of praeapical bar on first segment), proximal half of last $\frac{1}{4}$ pure white, distal half blackish with a rather elongate dot occupying whole breadth of segment just before its tip : cilia on costa black from base to $\frac{1}{4}$, then pale orange to $\frac{1}{2}$, then black to rather beyond outer edge of central bar on first segment, thence pale orange to apex, from which projects a long wisp of mixed blackish and ferruginous scales, within cleft greyish with a slight purplish tinge, tip of second segment with a very slight pale tuft with darker base, on dorsum pale golden but pale purplish grey beneath dark bars on outer half of second segment.

Hind-wing cleft from near base and from base, segments perlinear : pale golden, first segment with a faint fuscous ante-apical dot : cilia pale golden, on costa more greyish with a slight purplish lustre, this latter also faintly visible on lower margin of first segment and on upper margin of second segment.

Type ♂ (Fletcher Colln. 10269), New Ireland (Bismarck Archipelago), xi.1923, *Eichhorn*, received from Professor A. J. T. Janse ; cotype ♀ (Fletcher Colln. 10270) with same data ; cotype ♂, Lousiades, St. Aignan Island (*A. J. Meek*), expanse only 17 mm., but otherwise similar, in British Museum. In the British Museum one ♂ from New Guinea, Andai (*Doherty* 1892) (Wlsm. Colln. 41547) is apparently *lamprosema*, but in very poor condition, and a ♂ from the Solomon Islands (B.M. 87/3), defective in legs and antennae, is also *lamprosema*, but I do not make these two specimens cotypes in view of their condition. A ♂ from Amboyna (*Doherty* 1892) (Wlsm. Colln. 41329) may represent a local race of *lamprosema*, which it resembles in size and general appearance, differing in details ; the mid-leg, tibia and tarsus are more contrastingly marked black and silvery-white with some ferruginous ; the abdomen is dark chocolate colour, in a bright light the dark scaling showing metallic iridescence, the large silvery patches are identical, but the lateral markings are very faintly indicated ; on first segment of fore-wing the bar at about $\frac{1}{2}$ is ferruginous-orange lined along lower margin with black (merely an accentuation of the orange scaling of the type *lamprosema*) and the bar beyond $\frac{3}{4}$ is more direct (not so oblique) and composed of orange-yellow scaling with a slight black costal dot ; on second segment of fore-wing the blackish bar just before $\frac{1}{2}$ is followed by a short white space.

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41, Queen's Gate, S.W.7

1947

WEDNESDAY, May 7

,, June 4

,, October 1, 15

,, November 5, 19

,, December 3

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